

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human ILDR2 protein		
	Human ILDR2 (Leu21 - Glu186) Accession # Q71H61	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence	Leu21		
Analysis			
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	45 kDa		

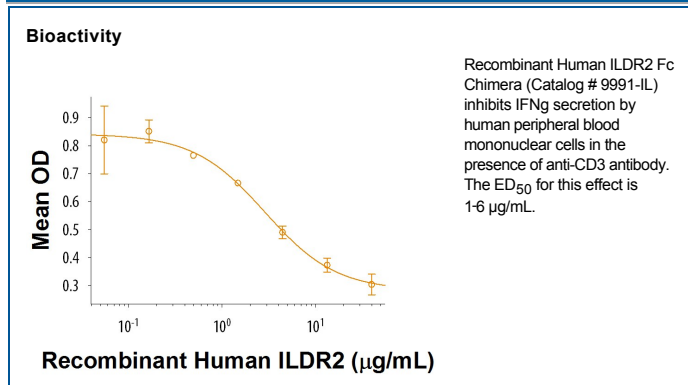
SPECIFICATIONS

SDS-PAGE	47-52 kDa, reducing conditions
Activity	Measured by its ability to inhibit anti-CD3 antibody induced IFN-gamma secretion by human peripheral blood mononuclear cells (PBMC). The ED ₅₀ for this effect is 1-6 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<ul style="list-style-type: none"> • 12 months from date of receipt, ≤ -20 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, ≤ -20 °C under sterile conditions after reconstitution.

DATA



BACKGROUND

ILDR2 (Immunoglobulin-like domain-containing receptor 2) is a member of the B7-like family of proteins that regulate T cell activity (1). ILDR2 is also a known endoplasmic reticulum molecule that regulates lipid homeostasis (2, 3). It contains a signal peptide, an Ig-like V-type domain, a stalk region, a transmembrane domain and a CCP-rich domain (1, 4). The human ILDR2 luminal domain shares a 99% and 98% homology with the mouse and rat respectively. The human gene encoding ILDR2 is located in a region on Chr1q23–25 that has been associated with type 2 diabetes (5). ILDR2 and its two paralogs, ILDR1 and lipolysis-stimulated receptor (LSR; also named ILDR3), are members of angulin family proteins (angulin-1/LSR, angulin-2/ILDR1, and angulin-3/ILDR2), and they are identified as protein components of tricellular tight junctions (tTJs), which are required for recruitment of tricellulin to tTJs (6). ILDR2 plays critical roles in hepatic clearance of lipoproteins and in lipid homeostasis (3). ILDR2 regulates human dendritic cells (DC2 cells, a subpopulation of polarized DCs that promotes Th2 differentiation) (7). Recent publications reported that ILDR2 displayed negative regulatory functions on human and mouse T cells in various experimental systems. Fusion protein of ILDR2 luminal domain with an Fc fragment, displays therapeutic effects in collagen-induced arthritis (CIA), a mouse model of rheumatoid arthritis (RA). ILDR2 represents a novel B7-like ligand that exerts negative immune modulation via interaction with a putative counterpart receptor expressed on activated T cells (1, 4).

References:

1. Hecht, I. *et al.* (2018) *J. Immunol.* **200**:2025.
2. Watanabe, K. *et al.* (2013) *PLoS One.* **8**:e67234.
3. Watanabe, K. *et al.* (2016) *Biochem. Biophys. Res. Commun.* **477**:712.
4. Podojil, J. R. *et al.* (2018) *J. Immunol.* **200**:2013.
5. Dokmanovic-Chouinard, M. *et al.* (2008) *PLoS Genet.* **4**:e1000137.
6. Higashi, T. *et al.* (2013) *J. Cell Sci.* **126**:966.
7. Gueguen, C. *et al.* (2016) *J. Allergy Clin. Immunol.* **137**:545.